Amendments to the Specification:

Please replace the paragraph beginning at page 2, line 3 with the following rewritten paragraph:

This application ~~is a continuation-in-part of~~ claims priority under 35 U.S.C. § 119(e) to U.S. Provisional Patent Application number 60/264,220 which was filed on January 25, 2001.

Please replace the paragraph beginning at page 2, line 5 with the following rewritten paragraph:

U.S. Patent No. ~~5,027,696~~ 5,057,696, and 5,332,925, the Specifications of which are incorporated herein by reference, disclosed various improvements to the windmill of U.S. Patent No. 4,115,027. The improvements included a new braking system, the use of thick airfoils, a drive belt transmission, two speed operation, and rotatable stators that improve efficiency and limit structural loads during high winds.

Please replace the paragraph beginning at page 10, line 16 with the following rewritten paragraph:

As shown in Figure 7, the row of wind turbines could be ~~locate~~ located underneath a row of horizontal axis wind turbines to form a "bush-tree" configuration. This allows greater energy extraction from a parcel of land. It may also increase the performance of the horizontal axis

wind turbines by vertical mixing or replacing lower energy air at lower levels with higher energy air from above. Another possible synergy of the bush-tree arrangement is that the foundations for the horizontal axis turbines could be modified to serve as anchor points for the guy wires that support the vertical axis wind turbines in the coupled vortex row. This configuration is particularly well-suited to sites with unidirectional prevailing winds.

Please replace the paragraph beginning at page 11, line 3 with the following rewritten paragraph:

The drive train for the wind turbine of the present invention is similar to that described in U.S. Patent ~~5,027,696~~ 5,057,696 or 5,332,925, both of which are incorporated herein by reference. As shown schematically in Figure 8, the drive train consists of a shaft mounted gearbox 10 that increases the rotational speed of the main shaft 2 to a speed that is useful for driving a generator. A belt drive 11 transfers power from the gearbox 10 to a generator 12. The belt drive 11 may provide additional speed increase and it also introduces some flexibility into the drive train to smooth out torque spikes. The gearbox 10 is a shaft mounted type that unless restrained will rotate in the direction of torque. In the preferred embodiment, the gearbox 10 is constrained to a small angular increment of rotation so that belt tension varies from loose (without falling off) to tight. This angular increment is adjustable. A shock absorber 13 constrains the rate of angular rotation of the gearbox 10 in the positive torque direction stabilizing the drive train during start up and damping torque spikes. A standard light truck shock absorber is employed in the preferred embodiment.

Please replace the paragraph beginning at page 12, line 7 with the following rewritten paragraph:

As shown in Figures 9 and 10, the brake system consists of a brake disc 14 that ~~us~~ <u>is</u> located above a bottom flange 15 of the main shaft 2. The inside diameter of the brake disc 14 is slightly larger than the outside diameter of the main shaft 2 allowing the disc 12 to both rotate and move up or down. The disc 14 is restrained in rotational motion relative to the main shaft 2 by several pins 16 that fit vertically through the bottom flange 15, the brake disc 14 and a flange 17 identical to the bottom flange 15. Flanges 15 and 17 are welded to the main shaft 2 and their outside diameters (which are equal in size) are much smaller than the outside diameter of the brake disc 14. The brake disc 14 is free to move vertically between flanges 15 and 17. There are two sets of brake shoes, an upper fixed set of shoes 18 and a lower moveable set of shoes 19. The moveable shoes 19 are free to move vertically and to pivot in a vertical plane. The moveable shoes 19 are mounted on the short end of a brake arm 20 that pivots in the vertical plane on fulcrum pin shafts 21. A weight 22 is provided on the end of the brake arm 20 to provide braking force. The fulcrum pin 21 is placed such that the distance from it to the end of the brake arm 20 supporting the weight 22 is ten times the distance from the pin 21 to the center of the moveable brake shoes 19. There are two parallel brake arms 20 mounted one on each side of the main shaft 2. When the long end of the brake arm 20 is lowered about the fulcrum 21 the short end rises displacing the moveable shoes 19 upward. The moveable shoes 19 are located below the brake disc 14 and contact the disc 14 when the shoes 19 are raised. With further

lowering of the long end of the brake arms 20 the brake disc 14 is raised until it comes in contact with the upper fixed brake shoes 18. The disc 14 is then sandwiched between the upper and lower brake shoes 18 and 19. This position is shown in Figure 10. The braking force is then the weight 22 times the mechanical advantage of the leverage or ten times the weight 22.

Please replace the paragraph beginning at page 13, line 9 with the following rewritten paragraph:

In addition to the mechanical braking force of the brake shoes 18 and 19 on the brake disk 14, the wind turbine also includes a system for pitching the blades 3 to provide aerodynamic braking. The aerodynamic braking system includes a blade activation disk 23 that is located on the main shaft 2 at a height near the bottom set of blade arms 4. The inner diameter of the blade activation disk 23 is slightly larger than the outer diameter of the main shaft 2 so that the disk 23 can rotate around the main shaft and move up and down along the shaft 2. Attached to the blade activation disk are a set of blade pitch cables 24 and 25. The first set of cables 24 attach to the leading edge of a blade 3. The second set of cables 25 attach to the trailing edge of a blade 3. There are four of each type of cable 24 and 25 so that when the blade actuation disk 23 is rotated relative to the main shaft 2, the leading edges of the blades are moved away from the main shaft 2 and the trailing edges are moved toward the main shaft 2 to pitch the blades 3. The blades 3 are pivot mounted on the blade arms 4 at a position between the trailing edge of the blades and the blades' center of gravity. Because the center of gravity is forward of the pivot position, the blades tend to pitch unless they are restrained by cables 24.

Please replace the paragraph beginning at page 15, line 8 with the following rewritten paragraph:

As shown in Figures 9 and 10, the brake system is actuated with a pneumatic cylinder 32 that raises and lowers the weight 22 and the end of the brake arms 20. When the lower end of the cylinder 32 is pressurized, the internal piston is forced upward lifting the weight 22 and the brake arms 20. The cylinder 30 must be pressurized to release the brake and the brake is applied when pressure in the cylinder is released. The pressurized air supply 33 to the cylinder 32 is controlled to control the brake system. An air compressor 34 supplies pressurized air to the cylinder 32. In the preferred embodiment one compressor 34 supplies compressed air for the air cylinders 32 on several adjacent wind turbines. Flow into and out of the air cylinder is controlled by a solenoid valve 35. The valve 35 is electrically energized by a circuit 36 that also provides power to the generator 12 so that the brake is activated if power to the generator 12 is disrupted. The compressed air line 33 is open between the cylinder 32 and the compressor 34. When electrical energy to the valve 33 is interrupted the valve 33 closes between the compressor 34 and the cylinder 32 and exhausts the pressurized air from the cylinder 32 causing the weight 22 and brake arms 20 to drop, engaging the brake system. This is a fail-safe design because loss of power will de-energize the solenoid valve 35 and release pressure in the air line 33 supplying the pneumatic cylinder 32 thereby causing the brake to be applied. Electrical energy to the valve 33 can be interrupted by a fault in the turbine circuit or the utility supply. It can also be interrupted by ~~a~~ manually switching the solenoid 36 and compressor circuit 37 off with a brake switch 38.

In addition to manual switching, a toggle switch 39 in the solenoid circuit 36 can be switched off by a trip arm 40 that moves into the path of the toggle switch 39 to turn it off. The trip arm 40 and toggle switch 39 are shown in Figure 11. The manual switch 38 and toggle switch 39 must be manually reset or reset through control software. If there is a fault in the utility circuit, the brake will engage but will automatically disengage when electricity is restored.